

REMARKS

Applicants thank the Examiner for notice that claims 22–23 are allowed. Claims 1–21 and 24–25 are now pending in the application. Applicants respectfully traverse and request reconsideration.

Claims 1–3, 5–8, 10–11, 14–15, 17–18, and 24–25 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,742,139 to Forsman et al. (“Forsman”). Claims 4, 9, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Forsman in view of U.S. Patent No. 6,543,002 to Kahle et al. (“Kahle”). Claims 12, 13, and 19–21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Forsman in view of U.S. Patent Application Publication No. 2002/0093505 to Hill et al. (“Hill”).

Claims 3 and 8 have been cancelled without prejudice. By amendment, the subject matter previously presented in claims 3 and 8 have been added to independent claims 1 and 6, respectively. Claims 16 and 20 have also been cancelled without prejudice. By amendment, the subject matter previously presented in claims 16 and 20 have been amended to independent claims 14 and 19, respectively. Similarly, the subject matter previously presented in claim 3 has been added to independent claim 24 by amendment. Claims 2–6, 10, and 15 have been amended simply to correct typographical errors. Claims 4 and 9 have been amended to provide proper dependencies in view of the cancellation of claims 3 and 8.

With regard to claims 1 and 6, Forsman fails to show, teach, or suggest detecting a hang in a co-processor by detecting a discrepancy between a current state of the co-processor and a current activity of the co-processor. As best understood by Applicants, Forsman discloses a method for reestablishing communications between a host and a service processor after the service processor has ceased to function correctly. The host exchanges heartbeat signals with the service processor. The heartbeat signals indicate that the service processor is active and

functioning. In response to a failure to receive a heartbeat signal, the host causes a hard reset of the service processor. In addition, the service processor can detect a failure within itself and initiate a hard reset to itself. The data processing system remains active and is not shut down during a hard reset of the service processor. After the hard reset, the service processor returns to a monitoring mode without performing initial tests of the data processing system. Applicants can find no mention of detecting a hang in a co-processor by detecting a discrepancy between a current state of the co-processor and a current activity of the co-processor in the cited portions of Forsman.

The Office Action cites column 4 lines 9–12 and 25–35 as allegedly teaching detecting a hang in a co-processor by detecting a discrepancy between a current state of the co-processor and a current activity. However, these portions merely disclose that in a proper running state, the service processor 204 monitors system operations over JTAG/I²C buses and that the host 202 and service processor 204 exchange heartbeat signals 206. When the host 202 detects a loss of heartbeat signals 206 from service processor 204, it is determined that the service processor 204 is not functioning properly. When the host 202 fails to detect a heartbeat signal 206 from service processor 204, the host 202 or service processor 204 attempts to recover full operations of service processor 204 by initiating a hard reset of the service processor. Conspicuously absent from this discussion is any showing, teaching or suggestion that a hang is detected by detecting a discrepancy between a current state of the co-processor and a current activity of the co-processor. At best, Forsman appears to teach that the receipt or lack of receipt of heartbeat signals as detected by the host directly indicates the working or not working mode of the service processor. Because nothing in Forsman teaches or suggests the detection of hang by detecting a

discrepancy between a current state and a current activity of the co-processor, reconsideration and withdrawal of the rejection of claims 1 and 6 is respectfully requested.

As to claim 11, the Office Action cites column 5, lines 10–15 as allegedly teaching a halt communications module operative to halt command communications with the co-processor, in response to detecting a hang in the co-processor. However, the cited portion of Forsman appears to be directed to a flowchart illustrating an exemplary process for recovering communication by a host with a service processor where, after host has lost communications with a service processor, the host determines if there are conditions that preempt the host from resetting the service processor (step 302). If there are conditions that preempt the host from resetting the service processor, then the process ends. “If there are no conditions that preempt the host from resetting the service processor, then the host sends a signal to the service processor warning the service processor that a hard reset is about to occur (step 304). Such a warning, as discussed above, allows the service processor to place itself in a better position for being reset.” (Col. 5, ll. 10–15). Because the cited portion appears related only to determining whether there are conditions that preempt the host from resetting the service processor and further appears silent as to the claimed halting command communications with a co-processor, Applicants respectfully submits that claim 11 is in proper condition for allowance.

With respect to newly amended claim 14, the Office Action cites column 4, lines 9–12 as allegedly teaching detecting the hang in the co-processor by detecting the current state to be busy, as reflected in a busy flag, and detecting no progress on current activity, as reflected in the absence of co-processor register activity. Applicants respectfully reassert the relevant remarks made above with respect to claims 1 and 6 noting that the cited portion of Forsman appears to be directed toward indicating the working or not working mode of the service processor by

monitoring the heartbeat signals of the service provider. Moreover, Applicants note that the cited portion of Forsman appears utterly silent as to any teaching or suggestion of a busy flag or co-processor register activity as claimed by Applicants. For these reasons, claim 14 is respectfully submitted for reconsideration.

As to newly amended claim 19, the Office Action cites column 4, lines 9–12 and lines 25–35 as allegedly teaching detecting the hang in the graphics processor by detecting the current state of the graphics processor to be busy, as reflected in a graphics processor busy flag, and detecting the current activity of the graphics processor to be idle, as reflected in the absence of graphics processor register activity. Given the similarities between claim 19 and claim 14, Applicants respectfully reassert the relevant remarks made above with respect to claim 14. Moreover, Applicants note that lines 25–35 merely teach that when host 202 fails to detect a heartbeat signal 206 from service processor 204, the host or service processor attempts to recover full operations of service processor by initiating a hard reset of the service processor in which the service processor jumps back into the monitoring mode of operation Because the cited portion of Forsman is silent as to the claimed subject matter such as, for example, at least a busy flag and a graphics processor register activity, no combination of the cited prior art appears to teach the claimed subject matter. Accordingly, claim 19 is similarly submitted for allowance.

As to claim 24, Applicants respectfully reassert the relevant remarks made above with respect to claims 1 and 6. For at least the reasons articulated above with respect to claims 1 and 6, claim 24 is also believed to be allowable over Forsman.

Claims 2–5, 7–10, 12–13, 15–18, 20–21, and 24–25 each ultimately depend on claims 1, 6, 11, 14, 19, and 24, respectively, and are allowable for at least similar reasons. Claims 2–5, 7–10, 12–13, 15–18, 20–21, and 24–25 are also believed to be allowable for having novel and

nonobvious subject matter. Therefore, reconsideration and withdrawal of the rejections is intellectually requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this response is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (312) 609-7599.

Respectfully submitted,

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